

FIG. 1a

<i>M. bovis</i>	-----ATA-----	TGTTCTTGAAAACGTGAATAGTAAAAATTTTT	142
<i>M. primigenium</i>	-----TT-----	TGTTCTTGAAAACGTGAATAGTAAAAATTTTT	181
<i>M. farciforme</i>	-----ATT-----	TGTTCTTGAAAACGTGAATAGTAAA---TTTT	177
<i>M. avium subsp. <i>avium</i></i>	-----TT-----	TGTTCTTGAAAACGTGAATAGTAAA---TTTTA	159
<i>M. avium subsp. <i>paratuberculosis</i></i>	-----AT-----	TGTTCTTGAAAACGTGAATAGTAAA---TTTT	196
<i>M. avium ssp.</i>	-----AAI-----	TGTTCTTGAAAACGTGAATAGTAAA---TAA	100
<i>M. tuberculosis</i>	TAATAATGTTTT-----	AATATATTCTTGAAAACGTGAATAGCCAAA---TA---T	176
<i>M. pulmonis</i>	-AACAAATA-----	GTTCTTAAACGTGAATAGCATA---TAAAT	159
<i>M. hydrophilia</i>	-----ATA-----	GTTCTTGAAAACGTGAATAGCCAAA---TAA	112
<i>M. avium subsp. <i>bovis</i></i>	-----TT-----	TGTTCTTGAAAACGTGAATA-----T	115
<i>M. fauis</i>	-----TT-----	TGTTCTTGAAAACGTGAATA-----T	123
<i>M. orale</i>	-----TT-----	TGTTCTTGAAAACGTGAATA-----T	108
<i>M. bovis noviss</i>	-----TT-----	TGTTCTTGAAAACGTGAAT-----T	119
<i>M. scrofulaceum</i>	-----TT-----	TGTTCTTGAAAACGTGAAT-----T	115
<i>M. falconia</i>	-----TT-----	TGTTCTTGAAAACGTGAATA-----T	92
<i>M. scurifolia</i>	-----TT-----	GTTCTTGAAAACGTGAATA-----T	97
<i>M. argiminii</i>	-----TT-----	TGTTCTTGAAAACGTGAATA-----T	93
<i>M. olesae</i>	-----TT-----	TGTTCTTGAAAACGTGAATA-----T	96
<i>M. granitiphila</i>	-----TT-----	TGTTCTTGAAAACGTGAATA-----T	160
<i>M. pseudomuriae</i>	CGAGTTCTGAAAG-AATGTTTTGAAACAGTTCTTGAAAACGTGAATAAGGAGA-----	CCAGTTCTGAAAG-AACATTTCGGC-----TTCCTTGAAAACGTGAAAAAGGACA-----	190
<i>M. pinguicula</i>	TAAATTTTAAAGTAGTAGAGATGG-----	TTCCTTGAAAACGTGAATAAGA-----	213
<i>M. muscae</i>	TT-----	CCTTGAAAACGTGAATAATTGATA-----	100
<i>M. parvum</i>	TT-----	CCTTGAAAACGTGAATAATTATAA-----	184
<i>M. urbis</i>	TTAATTTATATG-----GATGATGAA-----	TGTTCTTGAAAACGTGAATAATTATAA-----	199

FIG. 1b

<i>A. arthritidis</i>	AAA---CATCGATACTAGTTGACAGA	CTAACCTTCCTCTCTTITGTTCTTGAAAC	108
<i>A. fuscum</i>	AAA---CATCGATACTAGTTGACAGA	CTAACCTTCCTCTCTTITGTTCTTGAAAC	88
<i>A. falconis</i>	TAA---ATTGGATACTAGTTGACAGA	CTA---ACGCGCTTTT-GTTCTTGAAAC	85
<i>A. hispanica</i>	AAAAT---ATTGGATACTAGTTGACAGA	TTA---TCCTCTGT-----GTTCTTGAAAC	80
<i>A. arginini</i>	AAA---TATTGGATACTAGTTGACAGA	CTA---TCCTCTGAATTT-GTTCTTGAAAC	88
<i>A. cloacalis</i>	GAATTA---ATTGGATACTAGTTGACAGA	CTT---TCCTCTGAATTT-GTTCTTGAAAC	88
<i>A. hyosymoviae</i>	CA-----ATTGGATACTAGTTGACAGA	TTAT-TCCTCTTTTT-GTTCTTGAAAC	113
<i>A. urata</i>	Cta---ATTGGATACTAGTTGACAGA	CTA---TCCTCTGTT---ATTCTTGAAAC	102
***** * ***** * *** * *****			
<i>A. arthritidis</i>	--TTAAAAAAATTAAATATTCAA	-GTTTAGATCAACCTATAGAATACAA	173
<i>A. fuscum</i>	--TTAAAAAAATTAAATATTCAA	-GTTTAGATCAACCTATAGAATACAA	153
<i>A. falconis</i>	ATTA---TTAATTAAATATTCAA	-GTTTAGATCAACCTATAGAATACAA	150
<i>A. hispanica</i>	--TA---TTAATTAAATATTCAA	-GTTTAGATCAAC--ATAGAATATTT	141
<i>A. arginini</i>	ATTAATTAAATTAAATATTCAA	-GTTTAGATCAACCTATAGAATATAT	153
<i>A. cloacalis</i>	--TCATAAAATTAAATATTCAA	-GTTTAGATCAACCTATAGAATATTC	154
<i>A. hyosymoviae</i>	A-TTATCAAATTAAATATTCAA	-GTTTAGATCAACCTATAGAATATTC	178
<i>A. urata</i>	--TTAAATTAAATTAAATTCAA	-ATTAGATCAACCTATAGAATATTC	166
***** * ***** * *** * *****			

FIG. 1c

- 18. *bovis* S
- 19. *primatus*
- 20. *Festuca* var.
- 21. *capillaris*
- 22. *symmetropus* Gilman
- 23. *syntheticus*

TTTATTAAATAGGCTGAAAGCTT	ATATCTAGTTTTCAGGCA	TTCCTCAT 144
TT---TAATAGGCTGAAAGCTT	ATATCTAGTTTTCAGGCA	TTCCTCTT 148
TTT TT TATGGGCTAAAGCTT	ATATCTAGTTTTCAGGCA	TATT TTT TTCCTCAT 146
T-----ATTTCTTACAACTT	ATATCTAGTTTTCAGGCA	TTCCTCTT 128
TT---TTATGGGCTAAAGCTT	ATATCTAGTTTTCAGGCA	TCTCTCTTAAAT 136
GCTTTTTTGGCTTGCGCTAT	ATATCTAGTTTTCAGGCA	CCTCTCTTAAAT 141

- 36. Scutellaria*
- 37. primulaceae*
- 38. Formicariidae*
- 39. opalidaceae*
- 40. apertural opalidaceae*
- 41. syconium*

-ATGTTCTTGTAAAGCTGAAATAATATTTT	-TGATATTITACAGAACACATGAA-	201
-TGTTCTTGTAAAGCTGAAATAATATTTT	-TGATATTITACAGAACACATGAA-	207
TGTTCTTGTAAAGCTGAAATAATGAA-	-TTTGATATTITACAGAACACATGAA-	209
-TGTTCTTGTAAAGCTGAAATAATGAA-	-TTTGATATTITACAGAACACATGAA-	182
-TGTTCTTGTAAAGCTGAAATAATGAA-	-TTTGATATTITACAGAACACATGAA-	213
TGTTCTTGTAAAGCTGAAATAATGAA-	-TAAAGATATTACAGAACACATGAAAT-	193
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- 44. *bardii*
- 45. *perforatum*
- 46. *feroxiansis*
- 47. *opacocyanus*
- 48. *aspermatoptilium*
- 49. *syringiae*

—ATCAA—	TTAA	GGTTAATTCTTTCATG—CATCGAT—	AAGTCATATTAA—	250
CCATCAAAATTTAA	—	GGTTAATTCTTTCATG—CATCGAT—	AAATCATATTAA—	251
—TTAA—	TTAA	GGTTAATTCTTTCATG—CATCGAT—	AAATCATATTAA—	250
—ATTAATTGATTTA	—	GGTTAATTCTTTCATG—CATCGATATAAAACAACTATAAA—	238	
TAATTGAA—	TTAA	GGTTAATTCTTTCATG—CATCGAT—	TATGCAATTAA—	270
—ATAAATTAAATTAA	—	GGTTAATTCTTTCATG—	ACCGAGTT—TAATTAT—TGAA—	243

- 46. *sovereign*
- 47. *privatization*
- 48. *fermentation*
- 49. *oppositionists*
- 50. *supermarket chain*
- 51. *syndicate*

-TATGATTCATTAAATGCTT	TTAAATACACATCTTAA	—ACTAA	ACAA	AAATA	TAGGA	204	
-TATGATTCATTAAATGCTT	TTAAATACACATCTTAA	—ACTAA	—TCATA	TCG	—G	213	
-TATGATTCATTAAATGCTT	TTAAATACACATCTTAA	—AACTATA	ACAA	AAATA	TACGA	305	
TTTTGGATTCATTAAATGCTT	TTAAATACACGTCTAAATGT	—AACC	AAATA	ACAA	TAGGA	296	
AATGATTCATTAAATGCTT	TTAAATACACGTCTAAACGCA	—ACAA	TCCT	TATA	ACAA	230	
-AATAAATTATTAAATGCTT	GAATACA	—TCATA	AC	—AA	TATA	ACAA	295

FIG. 1d

FIG. 1e

<i>S. pneumoniae</i>	CTACGGAGTACAAAACCAATTTTTTAGAATTGCGATT TT-----TCATCATAAGTTAT----- 54
<i>S. neumolyticus</i>	CTACGGAGTACACATAACATCTTATTAAATTGGTTATTTAAAAATCTTTATAATAAT----- 60
***** * *** * *** * *** * *** * *** * *** * *** * *** * ***	
<i>S. pneumoniae</i>	-AGAAAGTCCTTATGTGTA [CTTGCGATTAGATATGTTAGTCACTTTGAAAGTCT 113
<i>S. neumolyticus</i>	AAAAACGTTATTATCGG-----CTTGCGATTAG-----TTTGTATACTGTTGAAAGTCT 114
* *	
<i>S. pneumoniae</i>	A-----TCCTTCAAA-----ACAAAT-----CTTCCTTAAACTGAAACGCAAT 155
<i>S. neumolyticus</i>	AATTTCCTTCTTAATTAAATAATCTTTAAATATATTCTTGAAAACGAAATACGAAAT 174
* *	
<i>S. pneumoniae</i>	AAATTAAATGATAACGTCATCAAAATGTAACCTTGTGAGCTCATTTTTAACAA 215
<i>S. neumolyticus</i>	--ATTGAAATTTTAACTTTCATAATAATTTCACACGCACTTACAACACCGCTCTAAGTG 232
*** *	
<i>S. pneumoniae</i>	TTT~TTTAAAT-----[AAATAGCTACCTTAAG~ATACACATCAAAAT-----ATAAAT 266
<i>S. neumolyticus</i>	TTTATTGACAGTTAGCTAAATAGCTACCTTAAGATATAAAATCTAAACAAATGCG 292
*** *	

FIG. 1f

<i>S. pneumoniae</i>	AACTTTCCGC-----TTCTTTCAAACTGAAACGCAA-TCTTTCIAGTC----- 205
<i>S. genitiflava</i>	AACTTTTTGAAAGTTCTTCAAACTGAAACGCAA-TCTTTCIAGTC----- 175
<i>S. pilum</i>	AGTAGAGATGG-----TTCTTTCAAACTGAAACGCAAATCTTTCIAGTC TTGTGTG 235
* *	
<i>S. pneumoniae</i>	---AA-TAAATACCAAGG-----ATCAATAC-----[AAATAGTTACTAAGGGCTTATG 252
<i>S. genitiflava</i>	---AAATAAAATACCAAGG-----ATCAATAC-----[AAATAGTTACTAAGGGCTTATG 224
<i>S. pilum</i>	AATACACAAATATGAAATGATAATGGATAATCAAATAATGTTACTAAGGGCTTATG 255
*** *	

FIG. 2a

<i>A. acanthum</i> 1	AAAAGATTCTTCAATTGTCATGATTGGTTTGCGACCTT-----	69
<i>A. ocelli</i> 1	AAAAGATTCTTCAATTGTCATGATTGGTTTGCGACCTT-----	110
<i>A. falcifolia</i> 1	TAACTTCTTAATTGTCATGATTGGTTTGCGACCTTAAATGACCCAC	103
<i>A. falcifolia</i> 2	TAATATTCTTAATTGTCATGATTGGTTTGCGACCTT-----	95
<i>A. medius</i> 1	TTACAACTTATACATTGTCATGATTGGTTTGCGATTTGCCATC-----	73

FIG. 2b

<i>A. falcifolia</i> 1	GAAGTAAACCACTTAAATAAAGT-----	68
<i>A. ocelli</i> 1	CAA-----	155
<i>A. acanthum</i> 1	TAG-----	133
<i>A. medius</i> 1	TAA-----	122

<i>A. falcifolia</i> 1	TCATTAACGTTCATGGTTCAACCTC-GTTCAGGGCCATTATATAATA 227	
<i>A. ocelli</i> 1	TCATTAACGTTCATGGTTCAACCTC-GTTCAGGGCCATTATATA-----	201
<i>A. acanthum</i> 1	TCATTAACGTTCATGGTTCAACCTC-GTTCAGGGCCATTATATA-----	164
<i>A. medius</i> 1	TCATTAACGTTCATGGTTCAACCTC-GTTCAGGGCCATTATATA-----	172

FIG. 2c

<i>A. falcifolia</i> 1	GAA---TATTCCTAAATTGTCATGATTGGTTGAAAGCTTAA---ACTTAAT-----	104
<i>A. ocelli</i>	CCAAAGATTCTTCAAA-TTGTCTCATGATTGGTTGAAAGCTTAA---TCATGAG 115	
<i>A. acanthum</i>	---AAACAAATTCTTCAAA-TTGTCTCATGATTGGTTGAAAGCTTAA---ACTTGTT 98	
<i>A. medius</i>	-----CAATTCTCATGATTGGTTGAAAGCTTAACTTCTTAAAT 84	

<i>A. falcifolia</i> 1	-----TAACTGTTCAAGAACAAAGCTTAACTGATGAAAGCTTAA-----GATGTCTGAA----- 160	
<i>A. ocelli</i>	A---TTGTCTTCAAGAACAAAGCTTAACTGATGAAAGCTTAA-----GATGTCTGAA----- 172	
<i>A. acanthum</i>	C---TCAG-----AACTAATCAAAATAGCTTAACTGATGAAAGCTTAA-----GATGTCTGAA----- 150	
<i>A. medius</i>	AAAGTAAGCTTCAAGAACAAAGCTTAACTGATGAAAGCTTAA-----GAAATAATGAAAGACAA 143	

FIG. 3a

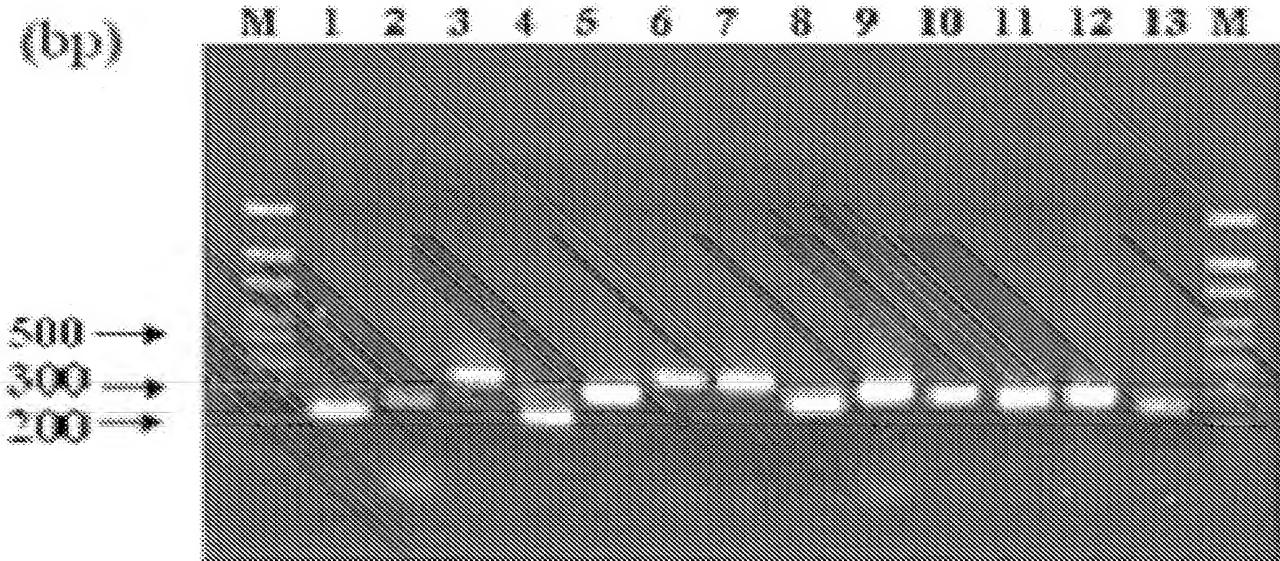


FIG. 3b

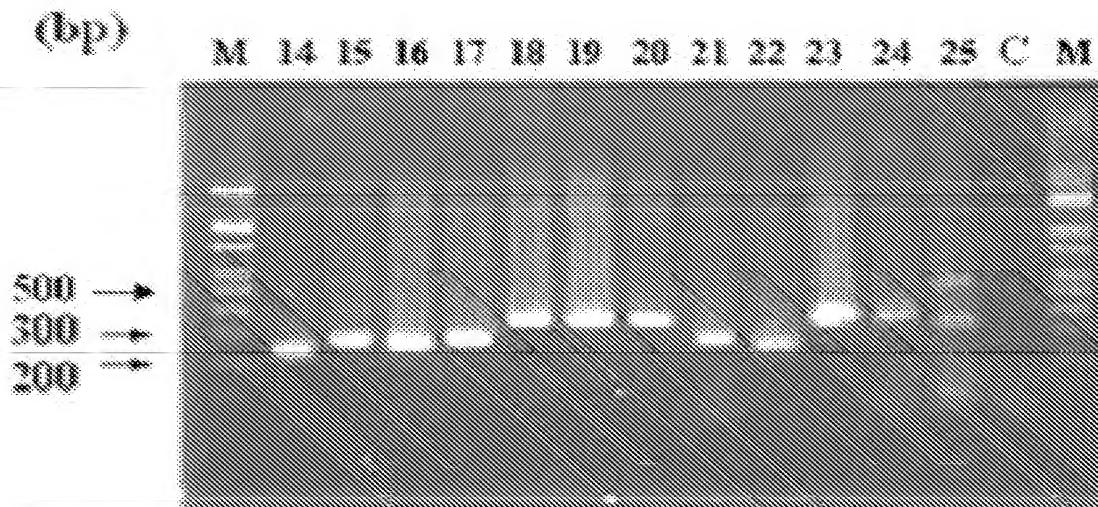


FIG. 4

MP-C [7]	<i>M. arginini</i> [28]	<i>M. arthrobidis</i> [30]	<i>M. fermentans</i> [33]	<i>M. hominis</i> [38]	<i>M. myorhinis</i> [41]
<i>M. neurolyticum</i> [49]	<i>M. opalescens</i> [52]	<i>M. orale</i> [58]	<i>M. pitum</i> [61]	<i>M. penetrans</i> [69]	<i>M. pulmonis</i> [75]
<i>M. salivarium</i> [83]	<i>M. chvacale</i> [85]	<i>M. faconis</i> [87]	<i>M. faucium</i> [90]	<i>M. hyosynoviae</i> [90]	<i>M. muris</i> [92]
<i>M. primatum</i> [96]	<i>M. spermophilum</i> [100]	<i>M. synoviae</i> [105]	<i>M. pneumoniae</i> [110]	<i>M. genitalium</i> [114]	<i>M. bovis</i> [120]
<i>M. urealyticum</i> [122]			AP-C [22]	<i>A. laidlawii</i> [128]	MP-C [7]

*[] corresponds to SEQ ID No's of Tables 2 and 3.

FIG. 5a

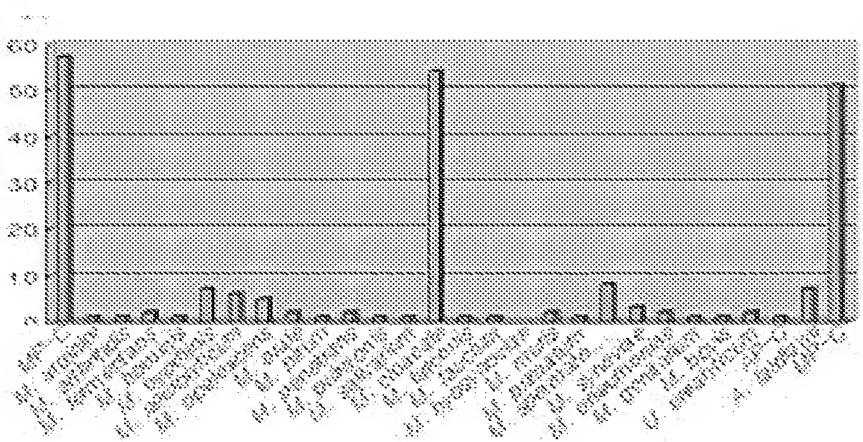
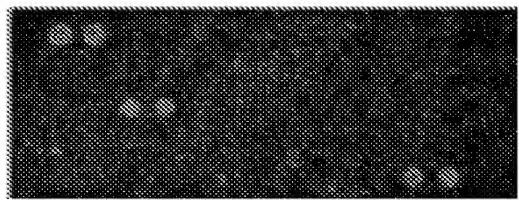


FIG. 5b

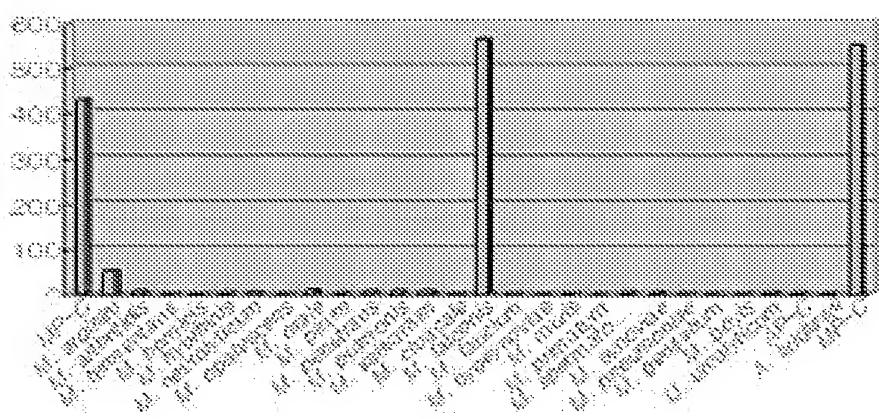
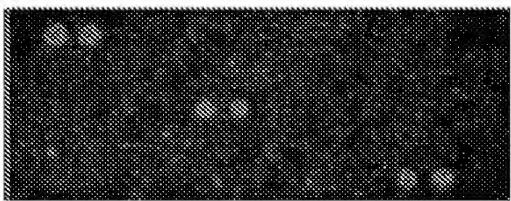


FIG. 5c

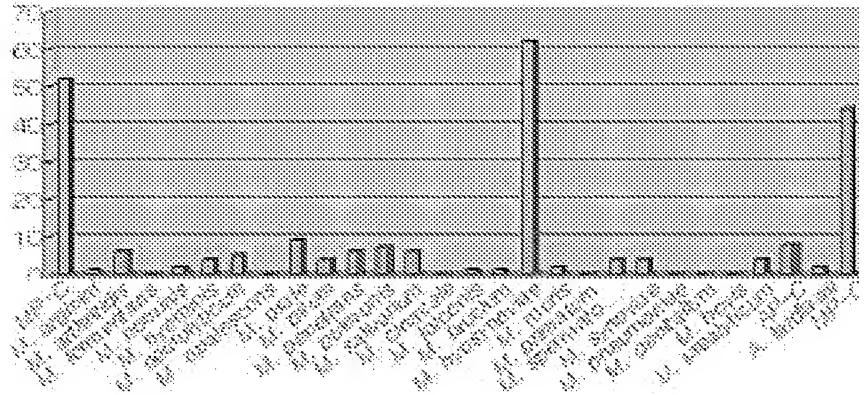
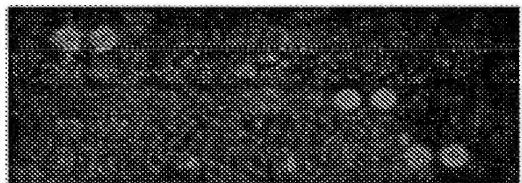


FIG. 5d

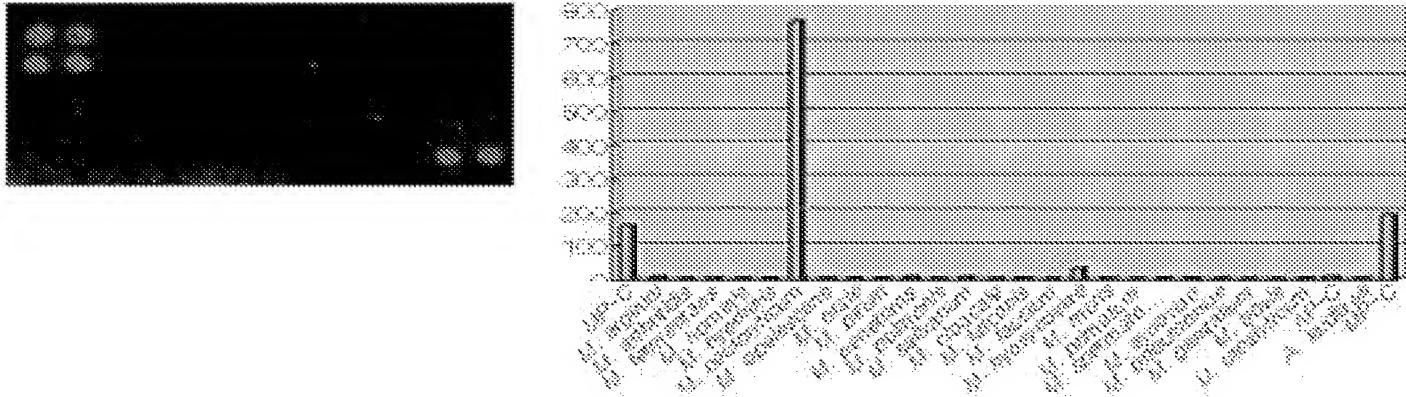


FIG. 5e

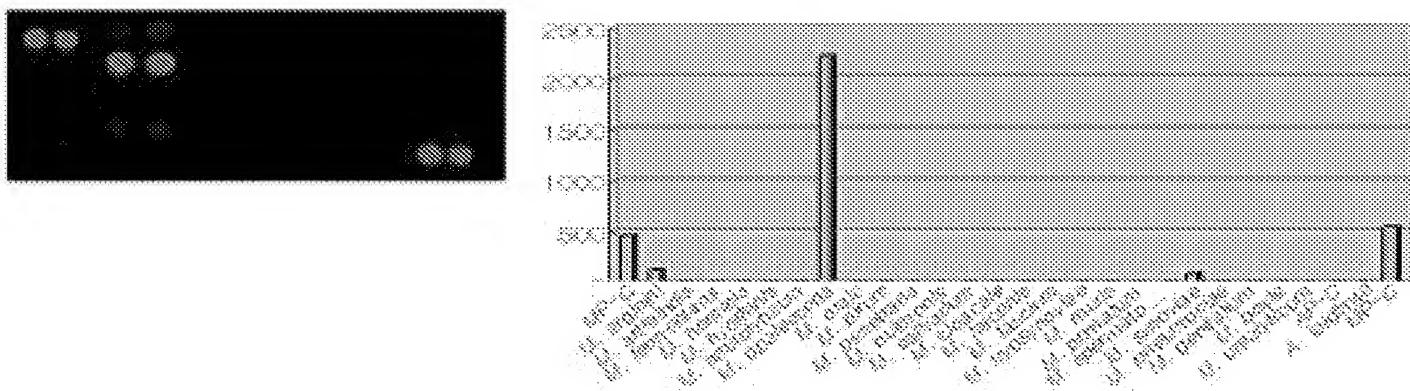


FIG. 5f

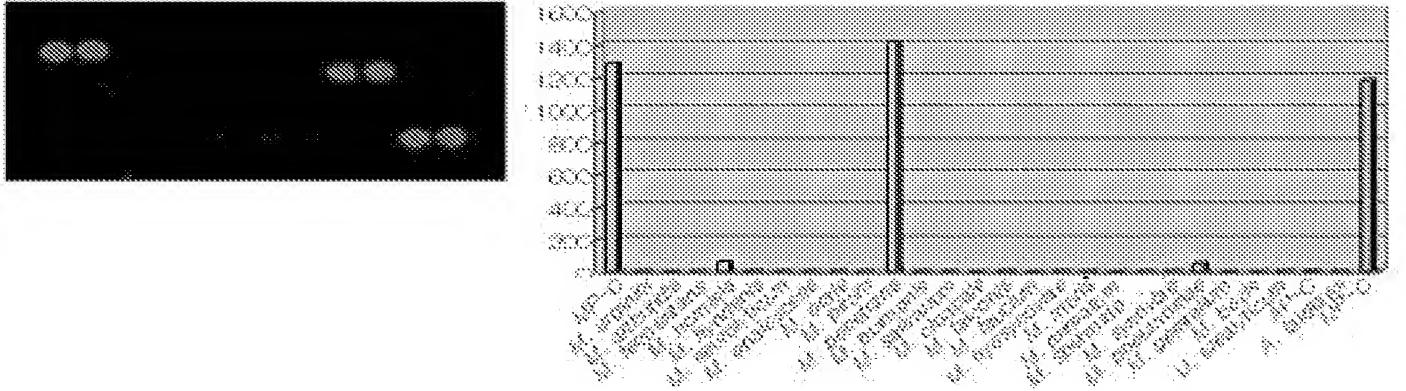


FIG. 5g

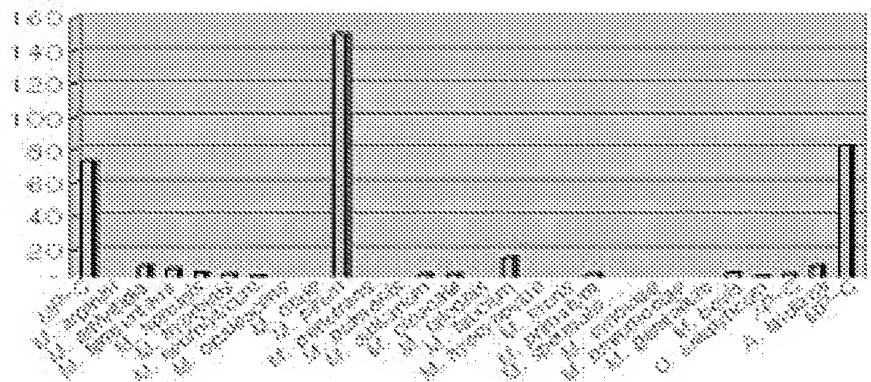
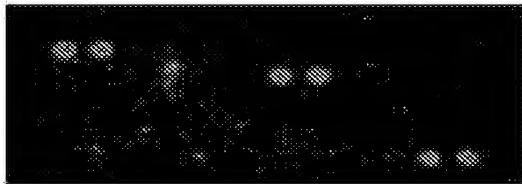


FIG. 5h

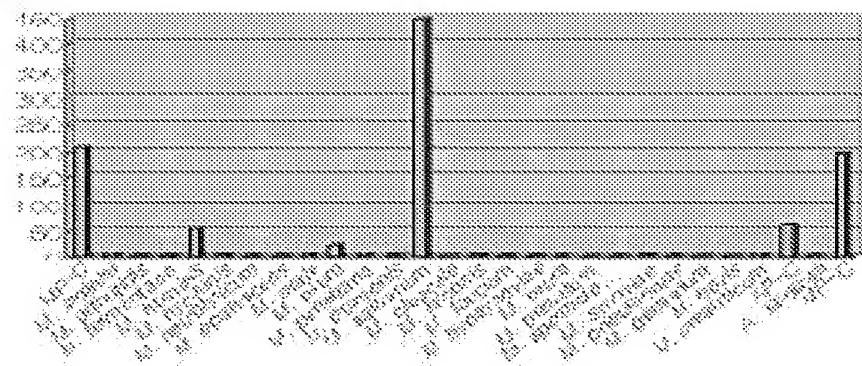
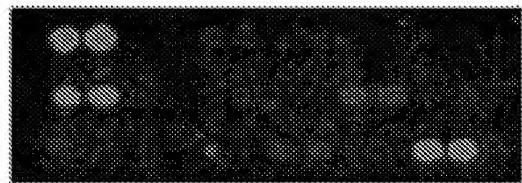


FIG. 5i

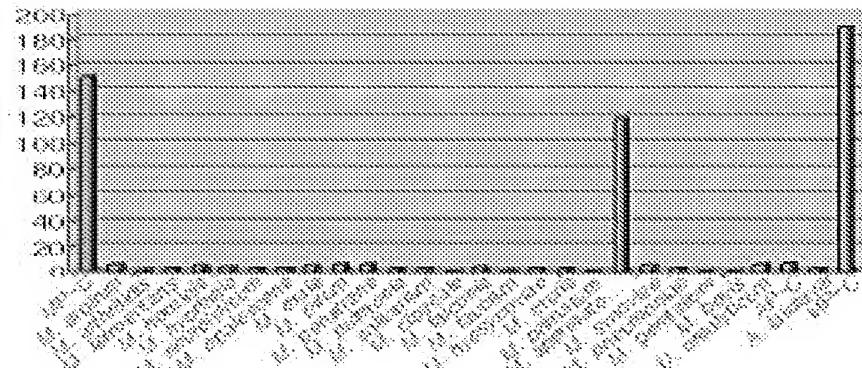


FIG. 5j

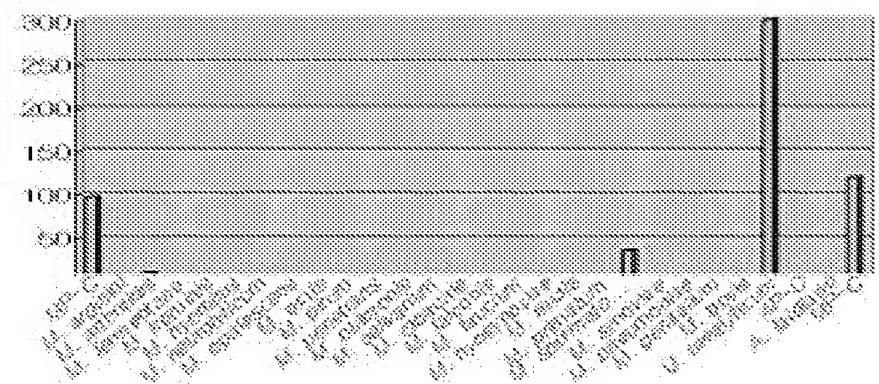
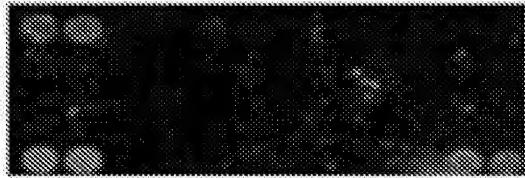


FIG. 5k

